5. Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements.

Include the necessary methods in order to achieve the following tasks:

a) Accept deposit from customer and update the balance.

b) Display the balance.

c) Compute and deposit interest d) Permit withdrawal and update the balance Check for the minimum balance, impose penalty if necessary and update the balance.

```java
import java.util.Scanner;

abstract class Account
{
        String CustomerName;
        int Acc_no;
        String AccType;
        double balance;

        Account(String CustomerName, int Acc_no, String AccType)
        {
                this.CustomerName=CustomerName;
                this.Acc_no= Acc_no;
                this.AccType = AccType;
                balance=0;
        }

        abstract void computeInterest();

        void deposit(double amount)
        {
                balance = balance+amount;
        }

        void withdraw(double amount)
        {
                if(amount<=balance)
                {
                        balance = balance - amount;
                }
                else
                {
                        System.out.println("Oops! Insufficient Funds!");
                }
        }

        void displayBalance()
        {
                System.out.println("Balance = "+balance);
        }
}
```

```java
class CurrAcc extends Account
{
        double minbalance=2000;
        int penalty=100;

        CurrAcc(String CustomerName, int Acc_no)
        {
                super(CustomerName,Acc_no,"Current Account");
        }

        void computeInterest()
        {
                System.out.println("No interest on current account");
        }

        void withdraw(double amount)
        {
                super.withdraw(amount);

                if (balance<minbalance)
                {
                        balance= balance-penalty;
                        System.out.println("Penalty of rs 100 applied");
                }
        }

}

class SavAcc extends Account
{
        double interest=12;

        SavAcc(String CustomerName, int Acc_no)
        {
                super(CustomerName,Acc_no,"Savings Account");
        }

        void computeInterest()
        {
                double interestamnt = 12.0/100.0*balance;
                balance = balance+interestamnt;
        }
        void withdraw(double amount)
        {
                super.withdraw(amount);
        }
}

class Bank
{
        public static void main(String[] args)
        {
                Scanner sc = new Scanner(System.in);

                Account c1= new CurrAcc("Sam",1);
                Account s1= new SavAcc("Sam",2);

                while(true)
                {
                        System.out.println("Enter 1 for current account , 2 for savings account, 3 to exit");
                        int c= sc.nextInt();
                        if (c==1)
                        {
                                while(true)
                                {
                                        System.out.println("Enter 1 to Deposit, 2 to Withdraw, 3 to DisplayBalance, 4 to
                                                                         computeInterest");
                                        int op = sc.nextInt();

                                        if(op==1)
                                        {
                                                System.out.println("Enter amount:");
                                                double amnt = sc.nextDouble();
                                                c1.deposit(amnt);
                                        }
```

```java
                                        else if(op==2)
                                        {
                                                System.out.println("Enter amount:");
                                                double amnt = sc.nextDouble();
                                                c1.withdraw(amnt);
                                        }
                                        else if(op==3)
                                        {
                                                c1.displayBalance();
                                        }
                                        else if(op==4)
                                        {
                                                c1.computeInterest();
                                        }
                                        else
                                                break;
                                }
                        }
                        else if(c==2)
                        {
                                while(true)
                                {
                                        System.out.println("Enter 1 to Deposit, 2 to Withdraw, 3 to DisplayBalance, 4 to
                                                                                computeInterest");
                                        int op = sc.nextInt();
                                        if(op==1)
                                        {
                                                System.out.println("Enter amount:");
                                                double amnt = sc.nextDouble();
                                                s1.deposit(amnt);
                                        }
                                        else if(op==2)
                                        {
                                                System.out.println("Enter amount:");
                                                double amnt = sc.nextDouble();
                                                s1.withdraw(amnt);
                                        }
                                        else if(op==3)
                                        {
                                                s1.displayBalance();
                                        }
                                        else if(op==4)
                                        {
                                                s1.computeInterest();
                                        }
                                        else
                                                break;
                                }
                        }
                        else
                                break;
                }
        }
}
```

5) Develop a Java Program to create a class Bank that maintains two kinds of accounts for its customers, one called savings account and another called current account. The savings account provides compound interest and withdrawal but no checkbook facilities. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name Acc No.. From this derive the class Cur Acc and SavAcc to make them more specific to their Requirements.

Include necessary methods:
a) Accept deposit from customer and update the balance
b) Display the balance
c) Compute and deposit interest
d) Permit withdrawal and update balance. Check for minimal balance and impose penalty.

```java
import java.util.Scanner;

abstract class Account
{
    String CustomerName;
    int Acc_No;
    String Acc_Type
    double balance;

    Account ( String customername, int Acc_No, String Acc Type)
    {
        this.customername = customername;
        this.accno = accno;
        this.accType = accType;
        double balance = 0;
    }
```

```java
import java

        abstract void computeInterest();
        {
        void deposit (double amount)
        {
            balance = balance + amount
        }
        void withdraw (double amount)
        {
            if (amount <= balance)
            {
                balance = balance - amount;
            }
            else
            {
                System.out.println (" Insufficient funds.");
            }
        }
        void displayBalance()
        {
            System.out.println (" Balance- " + balance);
}

class CurAcc extends Account
{
    double minbalance = 2000;
    int penalty = 100;
    CurAcc ( String CustomerName, int AccNo)
    {
        super ( CustomerName, Acc_No, "current Account")
    }
    void computeInterest()
    { System.out.println ("No interest on Current Acc"); }
```

```
void withdraw (double amount)
{
    super.withdraw (amount);
    if (balance < minbalance)
    {
        balance - balance - penalty;
        System.out.println("Penalty of Rs 100 applied");
    }
}
}
class SavAcc extends Account
{
    double interest = 12;
    SavAcc (String CustomerName, int Acc_No)
    {
        super(CustomerName, Acc_no, "Savings Account");
    }
    void compute interest ()
    {
        double interestamt = 12.0/100 * balance;
        balance = balance + interestamt;
    }
    void withdraw (double amount)
    {
        super.withdraw (amount);
    }
}
class Bank
{
    public static void main (String[] args)
    {
```

```java
Scanner sc = new Scanner (System.in);

Account c1 = new CurrAcc ("sam", 1);
Account s1 = new SavAcc ("sam", 2);

while (true)
{
    System.out.println ("Entr 1 for current acount,
                        2 for saving acc, 3 to exit");
    int c = sc.nextInt();
    if (c == 1)
    {
        while (true)
        {
            System.out.println ("Entr 1 to deposit,
                                2 to withdraw,
                                3 to display balance,
                                4 to compute interest");
            int op = sc.nextInt();
            if (op == 1)
            {
                System.out.println ("Entr amount");
                double amnt = sc.nextDouble();
                c1.deposit (amnt);
            }
            else if (op == 2)
            {
                System.out.println ("Entr amount");
                double amnt = sc.nextDouble();
                c1.withdraw (amnt);
            }
```

```
else if (op == 3)
{
        cl. display balance ();
}
else if ( op == 4)
{
        cl. computeInterest ();
}
else
{ break;
}
}
}
else if (c == 2)
{
    while (true)
    {
        System. out. println (" Enter 1 to Deposit, 2 to withdraw
                              3 to Display and 4 to compute")
        int op = sc. nextInt ();
        if (op == 1)
        {
            System. out. println (" Enter amount ");
            double amnt = sc. nextDouble ();
            sl. deposit (amnt);
        }
        else if (op == 2)
        {
            System. out. println ("Enter amount ");
            double amnt = sc. nextDouble ();
            sl. withdraw (amnt);
        else if (op == 3)
        {
```

```
                sl. display Balance()
            g
        elk if (ob ==a)
            g
                sl. compuk Pakeest ();
            g
            else
                break;
            g
        g
        else
            break;
    g
    g
g
```

Output :

Enter 1 for ~~savings Account~~ current Account, 2 to ~~withdraw~~ for saving Account , 3 to exit

1

Enter 1 to Deposit, 2 to Withdraw, 3 to Display Balance, 4 to Compute Interest

1

Enter amount. 5000

Enter 1 to Deposit, 2 to Withdraw, 3 to Display Balance, 4 to comput

3

Balance > 5000.0

Enter 1 to . . .

2

Enter Amount:

4500

Penalty of Rs 100 applied

Enter 1 to Deposit, 2 to Withdraw . . .

4

No Inhrest on Curr Acc

Enter 1 to Deposit....

5

Enter 1 ~~to Report~~ Current for Savings Acc, 2 for Savings acc, 3 toexit.

2

Enter 1 to Deposit f, 2 to Withdraw, 3 to Byflay Balance 4 to compute Inhrest

1

Enter Amount: 5000

Enter 1 to Deposit, 2...

2

Enter Amount :

4000

Enter 1 to Deposit, 2 to withdraw...

3

Balance = 500

Enter 1 to Deposit, 2 to withdraw...

4

Enter 1 to Deposit, 2 to withdraw, 3 to Byflay, 4 to Compute Intrest

3

Balance = 560

23/12/24